

Meyer Z-52 Zoysia Japonica

★ It's Permanent

★ No More Replanting

★ Dark Green All Summer Long

Meyer (Z-52) Zoysia is one of the new improved turf grasses which gives hope to the homemaker who desperately wants a good lawn free from Crabgrass. This was developed, tested and released as a superior turf grass for lawns and specialized turf areas by the United States Department of Agriculture and U.S. Golf Association, Green Section. Meyer (Z-52) Zoysia is a revelation to people who walk upon it for the first time. Once established, it produces a dense resilient and weed free turf. It is noted for its "dream come true" dark green which is so essential for maximum lawn beauty.

Yes, a mature Meyer Zoysia lawn:

- 1—is permanent.
- 2—is constantly improving with age.
- 3—is free from Crabgrass and other summer weeds.
- 4—is free from diseases and insects.
- 5—is extremely resistant to heat and drought.
- 6—thrives in sun or shade.
- 7—is highly wear resistant — tests have proven that it will withstand more wear than other grasses; excessive play and recreation will not wear paths through it.
- 8—is a beautiful dark green turf that remains dense and resilient throughout the year.
- 9—is readily adaptive to overseeding with cool-season grasses for mid-winter greenage.
- 10—is excellent for banks, terraces and erosion control.
- 11—requires less frequent mowings—thrives under close mowing.
- 12—stands neglect without tolerating invading weeds.
- 13—is an evident luxury, setting off the house and garden more effectively than a Cadillac or Lincoln parked in the driveway.

14—saves time by forcing the use of the power mower, an efficiency step never again to be surrendered.

15—is a beautiful green color when most cool-weather grasses have turned brown.

All of this and more too—Meyer is completely indifferent to soil composition—will grow in poor soils — sandy soils— clay soils— or "so called" rock beds.

Exclusion of noxious weeds, especially Crabgrass, is now possible with this new superior turf grass. Meyer (Z-52) Zoysia is most aggressive and dominant during the crabgrass season. Once established, this grass is highly resistant to weed invasion due to the tight interwoven mass of turf formed.

Meyer (Z-52) Zoysia forms a beautiful fine textured lawn. It may be cut at a height of from three-eighths of an inch to as high as four inches. The backbone of Meyer (Z-52) Zoysia is made up of short stems and tough interwoven stolons. These and many underground rhizomes with their dense mat of roots greatly enhance the wearing and load supporting quality of the sod. Combine this with the upright growth of the blades and one can well imagine the mat of cushiony turf unequalled for wear resistance and resilience.

Meyer (Z-52) Zoysia has withstood severe winter conditions as far north as Canada and thrives in the extreme heat of Southern Florida. It becomes dormant and loses its green color when freezing weather begins in the fall, however it never loses its dense turf quality. It regains its dark green color in the spring when the weather becomes warm. This presumed disadvantage of color loss is easily overcome by the seeding of cool season grasses, such as Merion Bluegrass into the Zoysia turf in the fall of the year.

There is evidence that cool - season grasses thrive better in a Zoysia base than they do alone. The Zoysia base

provides a cooler soil during the summer months and carries the cool-season grass through its most dangerous period in good shape.

Meyer (Z-52) Zoysia is eagerly awaited by home owners and turf workers throughout the country who have regularly experienced "loves labor lost."

Seed of this superior strain of Zoysia is not available. Planting must be done vegetatively. The simplest and easiest method of establishing a Meyer Zoysia lawn is by planting plugs. It is not necessary to work up your present lawn and start with a newly prepared seed bed. Meyer (Z-52) Zoysia can easily be planted into an existing lawn with the aid of special inexpensive plugger-transplanters now on the market.

Zoysia plugs, set on one foot centers into your existing lawn will afford coverage within a period of two growing seasons. In a newly prepared seed bed the time is cut into half, one year from one foot centers. If anything, these figures are conservative.

Sprigging is the more inexpensive method used for establishing Meyer onto a new lawn area. Solid Meyer sod minus soil is shipped for this purpose. The sod is divided into individual plants of one root system and one leaf cluster and planted on twelve inch centers. Meyer may be forced to complete coverage in less than four months by using this method and by giving proper care.

We strongly recommend that part of your trial planting be made in your most troublesome lawn area to prove that this is truly a superior turf grass. The relatively high cost of the initial planting material is in reality an economy because the Meyer not only improves the planted area but will also serve as a nursery for plugging to set additional turf areas.

NORDAN'S GRASS FARMS

"Highest Quality of Superior Turf Grasses"

ABBEVILLE, ALABAMA

Meyer 3-52 Zoysia Japonica

★ Permanent

★ No Mow Required

★ Dark Green All Summer Long

Meyer (3-52) Zoysia is one of the new improved turf grasses which give hope to the homeowner who desperately wants a cool lawn free from Crabgrass. This was developed, tested and released as a superior turf grass for lawns and specified turf areas by the United States Department of Agriculture and U.S. Golf Association Green Section. Meyer (3-52) Zoysia is a revelation to people who walk upon it for the first time. Once established it produces a dense, resilient and weed free turf. It is noted for its "diamond come true" dark green which is so essential for maximum lawn beauty.

Yes, it's the Meyer Zoysia lawn!

- 1—is permanent.
- 2—is constantly improving with age.
- 3—is free from Crabgrass and other summer weeds.
- 4—is free from diseases and insects.
- 5—is extremely resistant to heat and drought.
- 6—lives in sun or shade.
- 7—is highly wear resistant—tests have proven that it will withstand wear by other grasses, excessive play and recreation will not wear through the turf.
- 8—is a beautiful dark green turf that remains dense and resilient throughout the year.
- 9—is readily adaptable to over-seeding with cool-season grasses for rich winter greenage.
- 10—is excellent for banks, terraces and erosion control.
- 11—requires less frequent mowing—lives under close mowing.
- 12—stands erect without matting—stands erect without matting.
- 13—is an evident luxury, setting off the house and garden more effectively than a Crabgrass or Linum lawn parked in the driveway.

It saves time by losing the use of the power mower, an efficient step never again to be forgotten.

It is a beautiful green color when most cool-weather grasses have turned brown.

All of this and more too—Meyer is completely indifferent to soil composition. It will grow in poor soils—sandy, rocky, clay soils—or so called "rocky" soils.

Exclusion of noxious weeds, especially Crabgrass, is now possible with this new superior turf grass. Meyer (3-52) Zoysia is most aggressive and dominant during the crabgrass season. Once established, this grass is highly resistant to weed invasion due to the tight, interwoven mass of turf formed.

Meyer (3-52) Zoysia forms a beautiful fine textured lawn. It may be cut at a height of from three-eighths of an inch to as high as four inches. The backbone of Meyer (3-52) Zoysia is made up of short stems and tough, flattened blades. These and many underground rhizomes with their dense mat of roots greatly enhance the wearing and load supporting quality of the sod. Combine this with the upright growth of the blades and one can well imagine the mat of cushiony turf, undisturbed for wear resistance and resilience.

Meyer (3-52) Zoysia has withstood every winter condition as far north as Canada and thrives in the extreme heat of Southern Florida. It becomes dormant and loses its green color when freezing weather begins in the fall. However, it never loses its dense and quality texture. Its dark green color in the spring when the weather becomes warm, is a renewed advantage of color for its easily overcome by the seeding of cool-season grasses such as Melton Bluegrass into the Zoysia turf in the fall of the year.

There is evidence that cool-season grasses thrive better in a Zoysia base than they do alone. The Zoysia base

provides a cooler soil during the summer months and enables the cool-season grass to grow through its winter dormant period in good stands.

Meyer (3-52) Zoysia is easily watered by the home owner and the water throughout the country who have recently expanded their lawns.

Seed of this superior strain of Zoysia is not available. Planting must be done vegetatively. The easiest and most method of establishing a Meyer Zoysia lawn is by dividing sods. It is not necessary to work in your present lawn and start with a new prepared seed bed. Meyer (3-52) Zoysia can easily be planted into an existing lawn with the aid of special intensive digging and of special intensive digging. Transplanters, now on the market.

Zoysia plugs set on one foot centers into your existing lawn will create a new lawn within a period of two years. In a newly prepared seed bed the turf is cut into half one year from one foot centers. It is noted that these figures are conservative.

Spading is the more expensive method used for establishing Meyer Zoysia. A few lawn trees, shrubs and other plants are removed for this purpose. The sod is divided into individual plants of one foot square and one foot square and planted on twelve inch centers. Meyer may be forced to complete coverage in less than four months by using this method and by giving proper care.

We strongly recommend that part of your turf planning be made in your mind. Complete lawn areas to grow that this is truly a superior turf grass. The relatively low cost of the initial planting material is in reality an economy because the Meyer turf will also provide the pleasure and will also serve as a nursery for growing to set additional turf areas.

NORDON'S GRASS FARMS

"Highest Quality of Superior Turf Grasses"

ABBEVILLE, ALABAMA

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JAN 23 1956
U.S. Department of Agriculture

U-3 BERMUDAGRASS

◆ Cyndon dactylon ◆

★ The New Miracle Grass

★ Thickest Carpet of Any Grass

★ The Toughest Lawn Grass

Yes, a mature Zoyala Matrella lawn

1—is the most beautiful of all lawns.

2—is permanent.

U-3 Bermuda is a fine-bladed strain of Bermudagrass which was selected at Savannah, Georgia in 1938. It has grown in the vicinity of Washington, D. C. since then with no sign of winter injury. It has also been grown without winter-kill in the states of Washington, Nebraska and Pennsylvania as well as in Canada.

U-3 Bermuda has its greatest use in the "crabgrass belt," which is roughly a triangular area cornered on Philadelphia, Richmond and St. Louis. It makes its best growth under the very conditions commonly associated with the worst crabgrass infestations; hot humid weather and plenty of sunlight. It is relatively indifferent to quality of soil.

U-3 provides better turf for golf course tees and fairways, putting greens, athletic fields, playgrounds, park areas and sunny lawns. Its outstanding feature is its ability to form a very wear-resistant turf that recovers rapidly. The turf is drought-resistant and can be mowed as closely as necessary to meet the demands of its use.

Insects and diseases are not yet a serious problem in growing U-3. So far, it has seldom been necessary to apply any insecticides or fungicides. An occasional attack of cutworms and sod webworms has been recorded.

U-3 Bermudagrass seed is not available, therefore it is necessary to plant it vegetatively by either of two methods: (1) plugging or (2) sprigging.

U-3 Bermuda can be planted into an existing lawn by either of these methods. It is not necessary to destroy your present lawn. A handy inexpensive

Experiment Station. They do well under oaks, elms, pines, walnuts, cedars and most other trees.

hardy qualities being tough enough to withstand the continued play of children. They flourish and make a beautiful carpet in poor soil such as sand and

lawn plugger is now on the market to make the desired size holes to fit the purchased cut plugs. Holes are made into existing lawn area on twelve-inch centers and the cut plugs are placed into the holes and pressed firmly in place with the heel. The same process may be used in establishing U-3 onto a freshly prepared area or plugs may be hand spaced on twelve inch centers into three-inch deep rows or furrows.

The most inexpensive method of establishing U-3 is by sprigging. The U-3, solid sod less soil, is pulled apart and cut or broken into individual sprigs. The sprigs are placed into rows or furrows two-inches deep and twelve-inches apart and completely covered with soil every twelve-inches in the row.

When planting into an existing lawn, the sod is opened with an edging tool, or by similar means and the sprigs are placed into the trenches in the same manner as above. Soil should be firmed in place by tampering, rolling, watering or with foot pressure.

Rate of coverage depends primarily on the distance apart the plugs or sprigs are placed. On newly prepared seed beds, plugs placed at one-foot intervals will require from 6 to 8 weeks to form solid turf; plugs placed at two-foot intervals may form solid sod within one growing season.

Plugs placed at one-foot intervals into existing lawns will require one growing season to form a turf; two-foot centers will require a second growing season.

U-3 sprigged on eight-inch centers into a well prepared new lawn area and flourishes in good soil. It is well-named "Miracle Grass". (F. Eldridge Freeborn, Garden Editor, The Birmingham News-Age Herald)

MONTGOMERY — "Walking on the capital lawn nowadays is like walking on a Persian rug. That's because of Zoyala matrella . . . not only does matrella (the toughest grass ever grown) stand up to the most severe drought or long dry spells, but it kills other grasses."

"During the war, according to Joe H. Abernethy, capital grounds superintendent, kept free of competitive weeds will produce solid sod in six weeks; on 8 to 12 inch centers from 8 to 12 weeks and on 18 to 24 - inch centers one complete growing season.

U-3 sprigged into existing lawns on 8 to 12-inch centers will produce turf in one growing season; 18 to 24 - inch centers will require a second growing season.

The newly-planted area should be kept moist until the grass is well established. This generally requires watering once a day for the first week, then several times per week for the next few weeks.

U-3 Bermudagrass should be fertilized at the rate of 40 to 50 pounds of a 10-6-4 fertilizer per 1,000 square feet the first year. One-third should be applied at time of planting, one-third three weeks after planting and one-third six weeks after planting.

Overseeding for winter color may be done in the fall with a permanent cool-season grass mixture or with a temporary grass such as redtop or domestic ryegrass.

We wish you success in establishing a U-3 lawn. We stand ready to supply more plugs or sprigs as you want to expand your plantings. U-3 may be planted successfully all summer long, even during the hottest weather.

NORDAN'S GRASS FARMS

"Growers of Superior Turf Grasses"

Abbeville, Alabama

how to . . . because the roots are too tough. Once well established, Zoyala needs very little food and much less water than ordinary grasses." (C. W. Baker "Home Garden")

U-3 BERMUDAGRASS

◆ Cyclopedia ◆

keep free of competitive weeds will produce three solid sods in six weeks; on 8 to 12 inch centers from 8 to 12 weeks and on 18 to 24 - inch centers one complete growing season.

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U-3 provides better turf for golf course tees and fairways, putting greens, athletic fields, playgrounds, park areas and sunny lawns. Its outstanding feature is its ability to form a very wear-resistant turf that recovers rapidly. The turf is drought-resistant and can be mowed as closely as necessary to meet the demands of its use.

Insects and diseases are not yet a serious problem in growing U-3. So far, it has seldom been necessary to apply any insecticides or fungicides. An occasional attack of cutworms and sod webworms has been recorded.

U-3 Bermudagrass seed is not available, therefore it is necessary to plant it vegetatively by either of two methods: (1) plugging or (2) sprigging.

U-3 Bermuda can be planted into an existing lawn by either of these methods. It is not necessary to destroy your present lawn. A handy, inexpensive

ZOYSIA MATRELLA

JAN 23 1956

"King of the Lawn Grasses"

- ★ The New Miracle Grass
- ★ Thickest Carpet of Any Grass
- ★ The Toughest Lawn Grass

Yes, a mature Zoysia Matrella lawn:

- 1—is the most beautiful of all lawns.
- 2—is permanent.
- 3—is constantly improving.
- 4—is free from weeds.
- 5—is free from disease and insect enemies (no more chinch bug trouble).
- 6—is drought resistant.
- 7—thrives in shade and sun.
- 8—stands hard use better than any other grass.
- 9—stands neglect without tolerating invading weeds.
- 10—is an evident luxury often referred to as the "rich man's grass".
- 11—saves time by forcing the use of a power mower — an efficiency step never again to be surrendered.

Zoysia matrellas are native to the Orient where they are used for turf forage and fuel. They were introduced into this country in 1911 for observation and experimentation. Recently, they have been acclaimed as the very best all purpose lawn grass for the South. They grow well in all sections of the Southern part of the United States but are not recommended in areas north of Washington, D. C.

Zoysia matrellas have fine leaves, dark green in color and produce a dense sod which gives one the sensation of walking on a deep piled Persian carpet. One of their most valued characteristics is, after reaching maturity, their ability to eradicate all weeds. They are one of the earliest grasses to begin growth in the spring and one of the last to go dormant in the fall—remaining green much longer than Bermuda.

Matrellas grow to a height of only three or four inches and require few and infrequent mowings. Because of their slow growth, they need trimming from around flower beds only once yearly. Matrellas flourish under the hot sun and thrive under more shade

than any grasses tested at the Alabama Experiment Station. They do well under oaks, elms, pines, walnuts, cedars and most other trees.

Zoysia matrellas are noted for their hardy qualities being tough enough to withstand the continued play of children. They flourish and make a beautiful carpet in poor soil such as sand and clay as well as in areas favored with selected top soil. Zoysias should never be top-dressed with soil after planting.

Since seeds are not available, matrellas must be established vegetatively from sprigs or plugs set on one-foot centers. Complete coverage may be had in less than one growing season if irrigation, fertilization and weed control are practiced.

From our experience, early summer plantings produce the best results; although, many of our customers have reported sprigging and plugging Zoysias every month in the year with excellent results.

WHAT THE EXPERTS SAY ABOUT ZOYSIA MATRELLA LAWN GRASSES

AUBURN—"A dark green fine leaved lawn grass that will grow both in the sun and shade has been the goal of lawn research workers in the South for years. Zoysia matrella, a grass with these characteristics has been introduced from the Orient by the Department of Agriculture. Zoysia matrella produces a dense sod that feels like a rug. Unlike bermuda, it does not get weedy." (Dr. D. G. Sturkie, Agronomist, A.P.I.)

"ZOYSIA MATRELLA grows in pure red clay beneath pine trees where plantings of other grasses had completely failed; it grows in sand on the seashore where other grasses haven't a chance; it thrives in poor soil and flourishes in good soil. It is well-named 'Miracle Grass'". (W. Elbridge Freeborn, Garden Editor, The Birmingham News-Age Herald)

MONTGOMERY — "Walking on the capital lawn nowadays is like walking on a persian rug. That's because of 'Zoysia matrella . . . not only does matrella (the toughest grass ever grown) stand up under shade, wetness or long dry spells, but it kills other grasses.

"During the war, according to Joe H. Abercrombie, capital grounds landscaper, air pilots found that they could land their heavy planes on turfs planted with Zoysia matrella without breaking through the ground no matter if it were wet or dry.

"In parts of the South it is just as green in the Winter as in Summer—and also holds its rich green hue during Summer droughts." (International News Service)

* * *

BELTSVILLE, MD.—"In the United States, no disease has as yet been observed and identified on Zoysia matrella. It is remarkably free from insect parasites." (Dr. Ian Forbes, Jr.—Dr. Marvin Ferguson, Research Agronomists, USGA & USDA)

* * *

"ZOYSIA MATRELLA is by far the best known and best dressed of the Zoysias . . . The spongy thick turf of matrella is one of its most desirable and exclusive features . . . No other lawn grass can equal its adaptability to various types of soil and climate." (W. W. Nordan, "Green Thumb")

* * *

"ZOYSIA MATRELLA may be set with good results at any time of the year. If plenty of water is available during the dry Summer months, and a light covering of pine needles or leaves is used for the December-January settings, there is little choice between one month and another." (M. L. Beck of Auburn)

* * *

"ZOYSIA MATRELLA is free from all attacks by 'chinch bugs' and Japanese beetle grubs have never been known to invade it, no doubt because the roots are too tough. Once well established, Zoysia needs very little food and much less water than ordinary grasses." (C. W. Baker "Home Garden")

ZOYSIA MATRELLA

"King of the Lawn Grasses"

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Zoysia matrella is noted for their hardy qualities being tough enough to withstand the continued play of children. They flourish and make a beautiful carpet in poor soil such as sand and clay as well as in areas favored with selected top soil. Zoysias should never be top-dressed with soil after planting.

Since seeds are not available, matrella must be established vegetatively from sprigs or plugs set on one-foot centers. Complete coverage may be had in less than one growing season if irrigation, fertilization and weed control are practiced.

From our experience, early summer plantings produce the best results; although, many of our customers have reported springing and mowing Zoysias every month in the year with excellent results.

WHAT THE EXPERTS SAY ABOUT ZOYSIA MATRELLA LAWN GRASSES

AUBURN—"A dark green fine leaved lawn grass that will grow both in the sun and shade has been the goal of lawn research workers in the South for years. Zoysia matrella, a grass with these characteristics has been introduced from the Orient by the Department of Agriculture. Zoysia matrella produces a dense sod that feels like a rug. Unlike Bermuda, it does not get weedy." (Dr. D. G. Sturkie, Agronomist, A.P.I.)

"ZOYSIA MATRELLA grows in pure red clay beneath pine trees where plantings of other grasses had completely failed; it grows in sand on the seashore where other grasses haven't a chance; it thrives in poor soil and flourishes in good soil. It is well-named 'Miracle Grass.'" (W. R. Bridge, Editor, "The Birmingham News-Age Herald")

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Zoysia matrella is native to the Orient where they are used for turf and fuel. They were introduced into this country in 1911 for observation and experimentation. Recently, they have been acclaimed as the very best all purpose lawn grass for the South. They grow well in all sections of the Southern part of the United States but are not recommended in areas north of Washington, D. C.

Zoysia matrella has fine leaves, dark green in color and produce a dense sod which gives one the sensation of walking on a deep piled Persian carpet. One of their most valued characteristics is their reaching maturity, their ability to eradicate all weeds. They are one of the earliest grasses to begin growth in the spring and one of the last to go dormant in the fall—remaining green much longer than Bermuda.

Matrellas grow to a height of only three or four inches and require few and infrequent mowings. Because of their slow growth, they need trimming from around flower beds only once yearly. Matrella flourishes under the hot sun and thrive under more shade

Comparative Chart of Our Principle Permanent Lawn Grasses

	(1) Regions Adapted	(2) Shade Tolerance	(3) Fertility Requirement	(4) Soil Preference	(5) How Established	(6) Mowing Requirements	(7) Appearance	(8) Texture	(9) Wear Resistance	(10) Insect Damage	(11) Disease Trouble	(12) Rate of Spread	(13) Drought Tolerance
BERMUDA South African	I, II	Poor	High	Well Drained	Sprigs	Very Frequent	Excellent	Extra Fine	Fair	Variable	Variable	Fast	Fair
BERMUDA Tifine	I, II, III	Poor	High	Well Drained	Sprigs	Very Frequent	Unsurpassed	Fine	Very Good	Seldom Serious	Seldom Serious	Fast	Very Good
BERMUDA Tiflawn	I, II, III	Poor	High	Well Drained	Sprigs	Very Frequent	Excellent	Medium Fine	Very Good	Seldom Serious	Seldom Serious	Fast	Very Good
BERMUDA U-3	I, II, III	Poor	High	Well Drained	Sprigs	Very Frequent	Excellent	Medium Fine	Very Good	Seldom Serious	Seldom Serious	Fast	Very Good
BITTER-BLUESTEM (Improved St. A.)	I	Very Good	Moderate	Low Soils	Sprigs	Frequent	Good	Coarse	Fair	Serious	Seldom	Moderate	Fair to Good
CENTPEDE Chinese	I, II	Medium	Low	Little	Sprigs and Seed	Occasional	Good	Coarse	Fair	Serious	Seldom	Moderate	Fair
ST. AUGUSTINE Common	I	Very Good	Moderate	Low Soils	Sprigs	Frequent	Good	Coarse	Fair	Serious	Seldom	Moderate	Fair to Good
ZOYSIA JAPONICA Common	I, II, III	Good	Moderate	Little	Sprigs and Seed	Frequent	Fair	Coarse	Good	Seldom Serious	Seldom Serious	Moderate	Fair to Good
ZOYSIA JAPONICA Meyer	I, II, III	Good	Moderate	Little	Sprigs	Frequent	Excellent	Intermediate	Good	Seldom Serious	Seldom Serious	Moderate	Fair to Good
ZOYSIA MATRELLA Baker	I, II	Very Good	Moderate	Little	Sprigs	Occasional	Excellent	Real Fine	Very Good	Seldom Serious	Seldom Serious	Slow	Fair to Good
ZOYSIA MATRELLA Common No. 13521	I, II	Very Good	Moderate	Little	Sprigs	Frequent	Excellent	Fine	Very Good	Seldom Serious	Seldom Serious	Slow	Fair to Good
ZOYSIA TENUFOLIA Korean Velvet	I	Medium	Moderate	Little	None To Seldom	Occasional	Excellent	Extra Fine	Fair	Seldom Serious	Seldom Serious	Slow	Poor
ZOYSIA Emerald (New Hybrid)	I, III	Very Good	Moderate	Little	Sprigs	Occasional	Unsurpassed	Fine	Very Good	None Known	None Known	Moderate	Very Good

We do not recommend Carpet, common Bermuda, Bahia grasses or Dichondra for lawn and turf use. Each is less desirable than the better grasses listed above, more limited in use, and more difficult to manage. Anything saved in initial establishment cost of such ground cover will be lost in one year if adequately managed to produce a presentable lawn.

- Area I is the southernmost area of the United States, including the Atlantic Coast from Charleston across the lower half of Georgia and along the Gulf of Mexico, extending inland 100 to 200 miles on through Texas. Area II extends from Norfolk southward through the Carolinas, lower Tennessee across into Southwestern Oklahoma on the north, and down to the Area I lines on the South. Area III covers the remainder of Oklahoma, across middle Missouri, most of Illinois, Indiana and out to the Atlantic Coast through the lower part of New York on the north, with Area II being the southern boundary. All areas have exceptions, such as mountains where the cool season grasses perform satisfactorily in the summer, and river and lake areas where winter temperatures are held up by large bodies of water.
- Shade tolerance is extremely important in selecting a grass. Thought should be given to future shading when landscaping new lawns. All of the above grasses perform satisfactorily in full sun, but vary widely in degrees of shade that they will tolerate. Whenever possible, one grass should be used for the entire lawn.
- Fertility requirement is that amount necessary for best performance.
- All above grasses perform well on soils ranging from slightly acid to neutral. St. Augustine and Zoysia matrella will tolerate more salt water spray than the others.
- Most of the recommended grasses either do not seed true to type or else seed are not commercially available. Sprigging is the surest and most economical method of establishing the better turf grasses.
- Mowing requirement is based on that required for top performance and beauty of each particular grass. All grasses should be mowed often enough that the amount cut does not exceed the amount remaining. The finer textured grasses do best mowed at heights of from one half to one inch while the coarser grasses should be mowed at heights of from one to two inches.
- Appearance rating is based on a particular grass planted in an adapted area and properly maintained. If these requirements are not met, then appearance rating would be incorrect.
- Texture is rated on visible leaf and stem structure.
- Wear resistance of the above grasses is satisfactory for average lawn use, but becomes extremely important in the case of institutional lawns, golf courses, athletic fields, etc.
- Prospective insect and disease damage to any grass is difficult to appraise, except in the case of Common St. Augustine, which is highly susceptible to chinch bug and fungus. Most other grasses are deemed superior because they have more resistance to both insects and diseases, however all grasses are subject to damage from army worms.
- Complete coverage from twelve inch centers on well prepared seedbeds during warm weather will vary from 8 weeks on the "fast growers" to a year or more on some of the Zoysias. Slow growth is one of the desirable characteristics of a good permanent lawn grass, and home owners will do well to reconcile themselves to spending one to two years in perfecting their lawns.
- Drought tolerance is an important factor that many people overlook in selecting a lawn grass. Supplemental watering is required at times for top performance on all grasses and is especially necessary during the establishing period.

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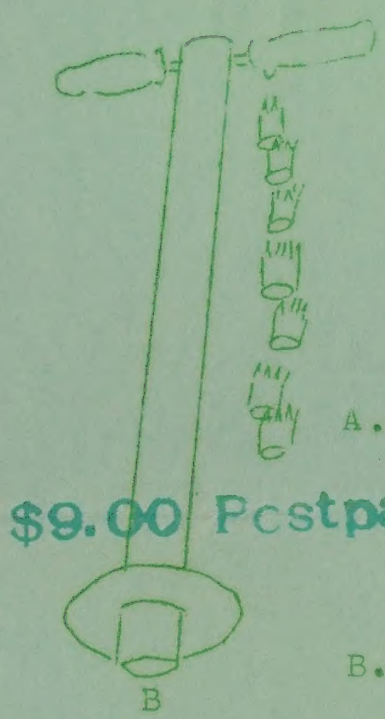
Nordan's TURF PLUGGERS

INTRODUCE NEW GRASSES

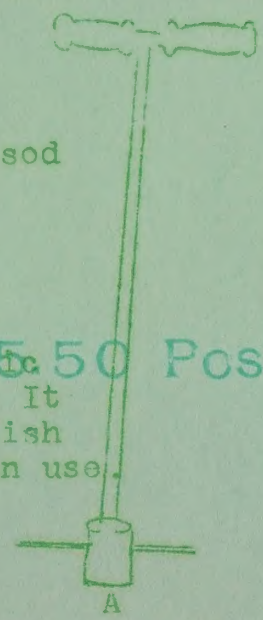
REPAIR WORN AREAS

1. Use the Turf-Plugger to cut openings in the area to be planted.
2. Use Turf-Plugger to remove uniform rounds of sod from the nursery.
3. Plant plugs of new turf. These cut openings to fit our turf plugs.

Use this easy planting method on athletic fields, tees, fairways and lawn areas. It is a quick and dependable way to establish new grass even on areas that are kept in use.



\$9.00 Postpaid

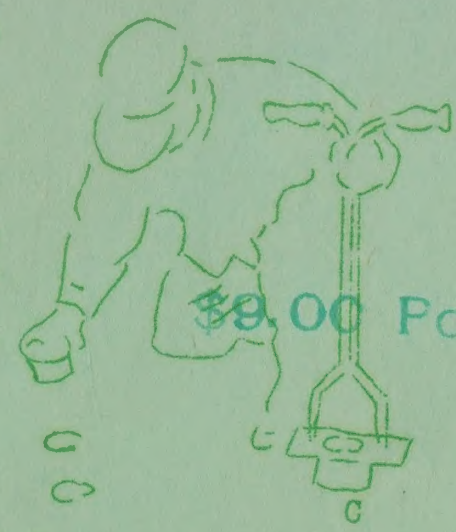


\$5.50 Postpaid

A. 2-inch Economy Turf Plugger. A continuous operating plugger that removes a round of sod two inches in diameter and two inches deep. Each newly made plug pushes the previous plug from the cutting cup. Cutter is made of hard tempered seamless steel.

B. 2-inch Cylinder Turf-Plugger. This Turf-Plugger removes a round of sod same size as plugger above. The cutting cup is grooved to grip roots firmly. As plugs are cut, they are pushed up into tubular magazine, which holds a stack of 20 plugs.

C. 4-inch Turf Plugger. This Turf-Plugger removes a round of sod 4" in diameter and 3" deep. The plugs cannot be stacked up in it. Each plug must be ejected as it is cut. Larger plugs do not kick out as they do with the economy 2" Turf-Plugger. They require less careful attention to become established.



\$9.00 Postpaid

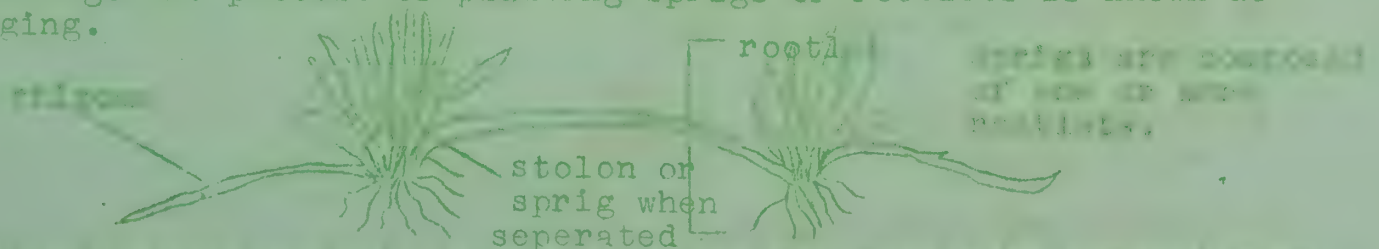
N O R D A N ' S G R A S S F A R M S

ABBEVILLE, ALA.

JAN 23 19
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There are three distinct methods of establishing our best turf grasses: solid sodding, plugging, and sprigging. Solid sodding means that the entire solid sod is lifted from one spot and placed solidly upon another prepared but bare area, thus obtaining a beautiful lawn in the shortest possible time. Plugging is the process of placing sod cores two inches or larger into established undesirable or new lawn areas. Holes are made in the area to be planted with a special plugging tool and the desired grass plugs of sod with soil are placed into these holes and left to cover. Sprigging is the most widely used and most economical method.

First of all, let us become familiar with the terms used in turf increase. The cross drawing below has the parts labeled and shows the stolon as a creeping stem from the parent plant. A stolon cut or pulled from the plant is called a sprig. When the sprig is divided at sections between the root joints, each division with roots is known as a rootlet or rooting. The process of planting sprigs or rootlets is known as sprigging.



Immediately upon arrival, your stolon stock should be removed from the packing and washed thoroughly so as to remove all clinging moisture. This stock may be kept in cool condition for several days by keeping it partially submerged in clean cool water. This water should be changed every other day until the material is planted. Your grass stock may be kept over a longer period by preparing a soggy mud puddle two to three inches deep and removing the sod into the mud. Wash the mud from the leaves by sprinkling with water. Keep the sod lightly shaded and moist until it can be planted.

Before planting, soil should be well prepared, fertilized and raked to the desired slope. Rows should be laid off at a distance of one-foot apart or closer and should follow the contour of the area. The furrows should not be over three inches deep and can be made with a small garden plow, edge of hoe or similar instrument.

When your area is prepared for planting, take the grass stock and separate the matted growth by pulling the sprigs and stolons. With the aid of a knife, scissors or snippers, divide the sprigs into individual rootlets. Put each division down into a container of fresh water. When this operation is completed, you are ready to start planting.

Best results are obtained by using one or more teams composed of two persons. One member should drop the rootlets every twelve inches or closer into the open furrows. The other member kneeling can with his left hand place the rootlet upright and well into the bottom of the furrow. While holding the plant upright, move the loose soil with his right hand so as to cover the root system and one-half of the leaf surface. It is best to carry four rows at one time and work alternately from left to right and vice-versa.

(OVER CONTINUED)

(CONTINUED)

When a good sized area has been planted, water the area thoroughly. At this time one can do a very good job of leveling the irregular pieces with the force of the water stream from the garden hose. As soon as the area is firm enough to walk upon, check the entire area for rootlets that might have been uprooted. Push these back into the wet soil with the end of a yardstick or similar object. KEEP THE AREA MOIST AT ALL TIMES FOR A PERIOD OF AT LEAST THREE WEEKS.

TOOLS NEEDED

1. Garden saw, hoe or similar instrument ..
2. Wide fine toothed rake
3. Snippers, scissors or knife
4. Container for holding water and plants
5. Carrying container for holding moist plants
6. Garden hose with nozzle

WORKERS NEEDED

1. One or more teams of two persons.

CAUTION: KEEP PLANTS MOIST AT ALL TIMES.

DOWFUME MC-2 FOR FUMIGATING VEGETABLE GARDENS, FLOWER AND SEED BEDS, LAWN AREAS TO BE SODDED, SMALL AREAS OF NUT GRASS IN CROP LAND, ETC.

Dowfume MC-2 contains 98 percent methyl bromide and 2 percent chloro-picrin (tear gas). It is a liquid that comes in one-pound cans. It is highly volatile and evaporates rapidly when the can is punctured. It must be applied under a plastic cover that is air tight, the margins of the cover sealed into furrows to make an airtight seal. Treatment requires 24 to 48 hours and the land is ready for use 48 hours after the cover is removed. The usual rate of application is one pound to 100 square feet of surface.

No one should attempt to use it until he has read Dow Chemical Company's leaflet on its use or been instructed by one who has had experience in using it.

USES: If properly used, it will completely kill nut grass, Bermuda grass, Johnson grass, other grasses and weeds and most weed and grass seeds. It gives excellent to perfect control of nematodes, and other soil-borne animal pests, and many of the more serious soil-borne disease organisms. Better stands of plants and better growth usually follow its use.

PERSONAL EXPERIENCE AND OBSERVATION AT AUBURN: In my own garden, which is somewhat sandy, I got a perfect kill of nut grass and Bermuda grass, along with the other things, where the soil had not been plowed or stirred for two or three months and had been rained on many times. I was testing to see if fresh preparation of the soil was necessary for this soil type. The cover was left in place for 38 hours before aerating. This might not work on a stiff clay soil. Anyone willing to risk a few dollars could test it on his own soil as I did.

SUPPORTS FOR THE COVER: I do not want any boxes, boards, iron pipe or anything that might rust or tear the plastic cover. Empty fruit jars laid flat, or cold drink bottles set on the little ends, or small "pillows" or piles of straw, leaves or grass will support the cover a few inches above the ground with little or no danger of injury to the cover, either in placing it, removing it or if the wind blows or rain falls while it is in place. This is very important. These supports can be spaced two or three feet apart along the edges and down the center of the cover. Instead of a trough or pan into which to empty the liquid, I prefer a fairly large glass jar with the top tilted slightly upward. The end of the saron tube is weighted and placed in the jar before the cover is laid in place. I place the jar about the center of a 13 by 33 ft. cover.

SIZE OF COVER: A cover 13 by 33 feet will treat about 300 square feet at each setting, is not difficult for one person to handle and requires only one injection point for perfect results. They come from the factory in lengths of 100 and 150, feet, and in several widths. Our company usually buys in 13 by 100-ft. size and cuts them to suit the customer. A cover 13 by 33 retails for some \$17.50 or more and a jiffy applicator for around \$5.00. They will last for several years and can be used over and over if well cared for. The MC-2 chemical is usually used at the rate of a one-pound can to 100 square feet—three cans for each setting of a 13 by 33 cover. Retail price will usually be 85 cents or more per can.

The cost is a little high but there is nothing else so satisfactory for nut grass and for old gardens that have become heavily infested with nematodes, wilts, rots and other soil-borne animal and disease organisms. Its use is spreading where it has been tried.

Gardeners who are interested should ask their local merchants to write us at one of the addresses given. We do not sell retail but through local merchants.

ERADICATION OF NUT GRASS

Dowfume MC-2 will quickly exterminate nut grass and the land can be planted or sodded 48 hours after treatment. But the process is tedious and expensive. This treatment can only be justified on small areas and where the dollar value of production expected from the land is high. Small home gardens, plant beds, lawn areas and nursery areas can justify the labor and expense. Field crop areas cannot.

Several applications of 2,4-D, Amine form, will kill nut grass. It is said that a strength of 4 tablespoons to a gallon of water, applied to about 400 square feet, will kill nut grass in zoysia sod without injury to the zoysia. Bermuda grass will be burned by this strength, but will soon recover. New applications need to be made before new nut grass growth produces seed pods. If nut grass is killed before seed pods form, there will probably be no new nuts grown under ground. Treatment should be continued throughout one year, and again the second year as long as sprigs of nut grass come through the sod of zoysia or Bermuda.

Use of 2,4-D in lawns requires great care to prevent injury to shrubbery and to the neighbors' premises. The amine form gives off little or no vapors or fumes. Spray drift is dangerous to many plants. To reduce danger of drift, use low pressure, 15 to 25 pounds, and spray when the air is still. Holding the spray nozzle close to the ground and directing the spray straight downward will prove very helpful. A large fly sprayer can be used for small areas. Use a slow stroke to produce a "sprinkle" not a fog or mist.

A north-eastern species of nut grass can be killed completely by use of Sodium TCA-90 percent; but its use is not satisfactory against the species we have in the south. We are still waiting for a satisfactory field-scale nut grass remedy.

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May 1952

GEORGIA COASTAL PLAIN EXPERIMENT STATION
Tifton, Georgia

Information based on results of practical experiments in
agriculture for press release and distribution to farmers.

TIFTON 57 BERMUDA GRASS FOR LAWNS, ATHLETIC FIELDS, AND PARKS 1/

G.W. Burton and B.P. Robinson 2/

Tifton 57 is an aggressive, disease-resistant hybrid Bermuda grass that has proven its superiority for lawn and turf purposes from Texas to the Atlantic and from Tennessee to Miami. This hybrid was developed co-operatively by the U.S. Department of Agriculture and the Georgia Coastal Plain Experiment Station. When compared with common cotton-patch Bermuda or that grown from seed it:

1. Spreads faster and becomes established quicker after sprigging.
2. Makes a denser turf which means fewer weeds.
3. Tolerates more punishment and wear, making it better for football fields and playgrounds.
4. Stays green longer due to its greater disease and frost resistance.
5. Will be injured less by winter ryegrass and will recover faster when ryegrass goes out in the spring.
6. Requires less fertilizer.
7. Is shorter and looks better with infrequent mowing. (It should be mowed as often, however, to make high-quality turf.)

Like common Bermuda, Tifton 57 will not do well in shade and should not be planted in shady lawns..It can be grown under light shade if mowed less frequently and cut higher. It will also be as hard to keep out of flower beds, walk ways, gardens, etc., as the common type. Tifton 57 is very drough resistant and will do well on dry soils if properly fertilized. Like other Bermudas, Tifton 57 will suffer if not provided sufficient plant nutrients.

1/ Co-operative investigations at Tifton, Georgia, of the Division of Forage Crops and Diseases, U.S.D.A., the Georgia Coastal Plain Experiment Station, the U.S.G.A., and a number of Southern Golf Associations.

2/ Principal Geneticist, U.S. Department of Agriculture, and Turf Specialist, Georgia Coastal Plain Experiment Station, Tifton, Georgia

Mimeograph
Paper No. 78

May 1952

GEORGIA COASTAL PLAIN EXPERIMENT STATION
Tifton, Georgia

Information based on results of practical
experiments in agriculture for press release
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TIFFINE (TIFTON 127) TURF BERMUDA GRASS
B.P. Robinson and Glenn W. Burton*

Golf course superintendents have continually searched for a good fine textured Bermuda grass. The establishment of experimental turf plots at the Georgia Coastal Plain Experimental Station in 1947 marked the first milestone for the selection, breeding, and testing of Bermuda grass types for turf purposes. During this time over 136 types of Bermuda grasses have been tested under both golf green fairway management. By 1949 and 1950 it was evident that a hybrid Bermuda, Tiflawn (Tifton 57 Bermuda grass) produced at the experiment station, was superior to common seeded Bermuda grass and several selections from golf courses in the Southeast. Tiflawn, however, still fell short of the exacting requirements of the golfers for a very fine textured Bermuda. In an effort, therefore, to produce a finer textured Bermuda while still retaining desirable qualities, Tiflawn, Cynodon dactylon, and several other selections of common Bermuda were hybridized with a very fine-leaved disease susceptible Bermuda from South Africa, Cynodon transvaalensis.

Eighty-nine hybrid plants, obtained from the crosses, were planted in the field for observation in 1949. Several of the plants appeared to be inferior turf types and were discarded. The most promising hybrids, however, were planted in the experimental turf plots. Such comparative ratings as disease resistance, sod density, fineness, playing quality, weed resistance, aggressiveness, etc., over the past two years have indicated that the hybrid plant carrying the number 127 is a superior turf type. This Bermuda produced by crossing Tiflawn with South African Bermuda grass has become known as Tifton 127 Bermuda--Tiffine. Since it does not produce viable seed, it must be propagated vegetatively.

Tiffine has a distinctive medium green color, is aggressive, disease resistant, not injured by overseeding with ryegrass, and is much finer in texture than Tiflawn, common seeded Bermuda, or most other types of Bermuda grass used on putting greens. Commercial sources are available. Observations to date indicate that Tiffine is well adapted throughout the Southeast. It is being grown satisfactorily on new greens in the coastal area and as far north as the Ohio River Valley.

Although Tiffine is a great improvement over common Bermuda for putting greens, the Bermuda grass breeding work is being continued in the hope that even better Bermuda may be found.

*Turf Specialist and Principal Geneticist, Georgia Coastal Plain Experiment Station and U.S. Department of Agriculture, Georgia Coastal Plain Experiment Station, Tifton, Georgia

